

SMOKE DETECTOR GUIDE



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1. Homeowner Requirements

Smoke detectors detect fires by sensing small particles in the air. Once they detect those particles above a certain threshold, they signal the alarm to sound so that you and your family can get to safety and call 911.

Smoke detectors are required in all R-3 and R-5 family dwellings. **CO** (Carbon Monoxide) detectors are required in all dwellings that contain any fuel burning appliances **or** have an attached garage.

Every homeowner needs both types of detectors. Aside from the different types of threats they identify, both detectors are placed in different parts of the home.

NOTE:

Test smoke alarms every month by pressing their test buttons. If your alarms use regular batteries, swap in fresh batteries at least once a year.



2. Smoke vs. Carbon Monoxide

A smoke detector is a device that gives off a loud warning once smoke is detected. The device serves one purpose- to detect smoke. This will not detect carbon monoxide and should be treated as a separate entity to a CO detector.

NOTE:

Smoke detectors
DO NOT detect CO
levels.

CO detectors DO
NOT detect smoke
levels.



A detector for carbon monoxide works differently: it isn't seen, doesn't give off an odor, and can't be tasted.

CO is a poison released in the air by poorly ventilated appliances or engines; gasoline, propane, and other fuels give off large amounts of CO. Homes are usually tightly sealed, thus the leaking CO has nowhere else to go.



3. Types of Detectors

Hardwired

Hardwired detectors are favored as they are connected to a power supply. Once the alarm sounds, they will not stop until physically turned off. Backup batteries are used for continuous operation in case of power failure.



Battery-Powered

These detectors depend solely on batteries. Be sure to check a battery-powered smoke detector at least ONCE a year. A high pitched beeping is a clear sign that the batteries should be changed.

Permits are only required for electrical-powered detectors. The forms to fill out are:

- Permit Application (F100)
- Electrical Technical Section (F120)
- Fire Technical Section (F140)

Forms for a permit can be found through the NJ State website:
<https://www.state.nj.us/dca/divisions/codes/resources/constructionpermitforms.html>

4. Locations

The dead air location of a home may prevent a detector from properly working. Dead air space is the 4' area in the corners of a **flat ceiling** or the top point of a **peaked ceiling**.

Detectors for a **flat ceiling** home must adhere to the 4" dead air clearance when installing. When installing on a wall, a detector must not be placed lower than 12" (avoiding the 4" dead air space).

Detectors for a **peaked ceiling** must adhere to the 4" dead air clearance when installing. Install the detector within 3' (36") of the peak (avoiding the 4" dead air space).

To best avoid dead air, please refer to the ceiling plans on the next page.

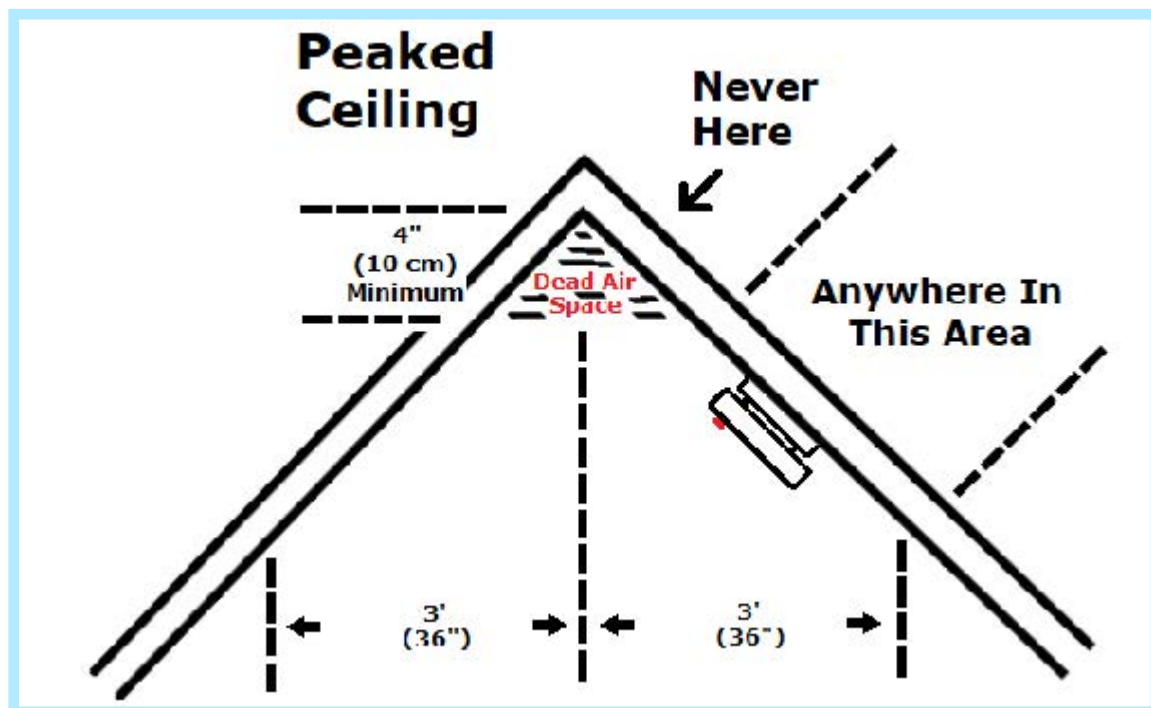
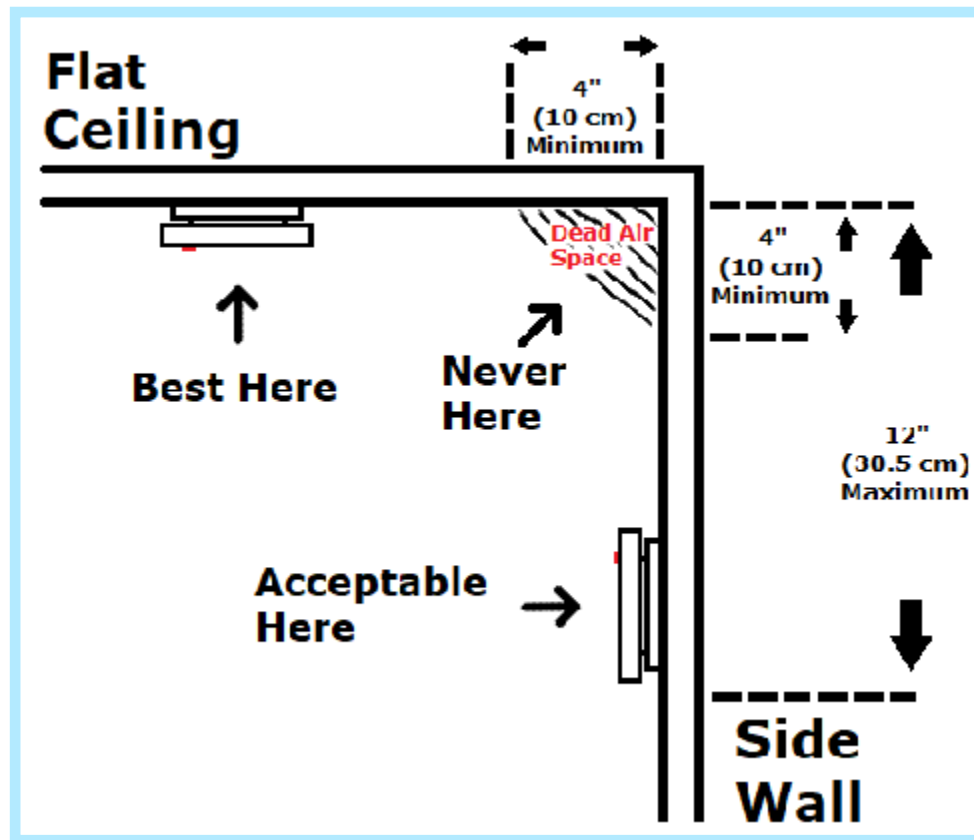
4.1 Where to Install

- On every level of a residence - including basement, but excluding crawl spaces/unfinished attics.
- In the hallway outside of each sleeping area.
- Basement level detectors are to be located at the bottom of basement stairs.

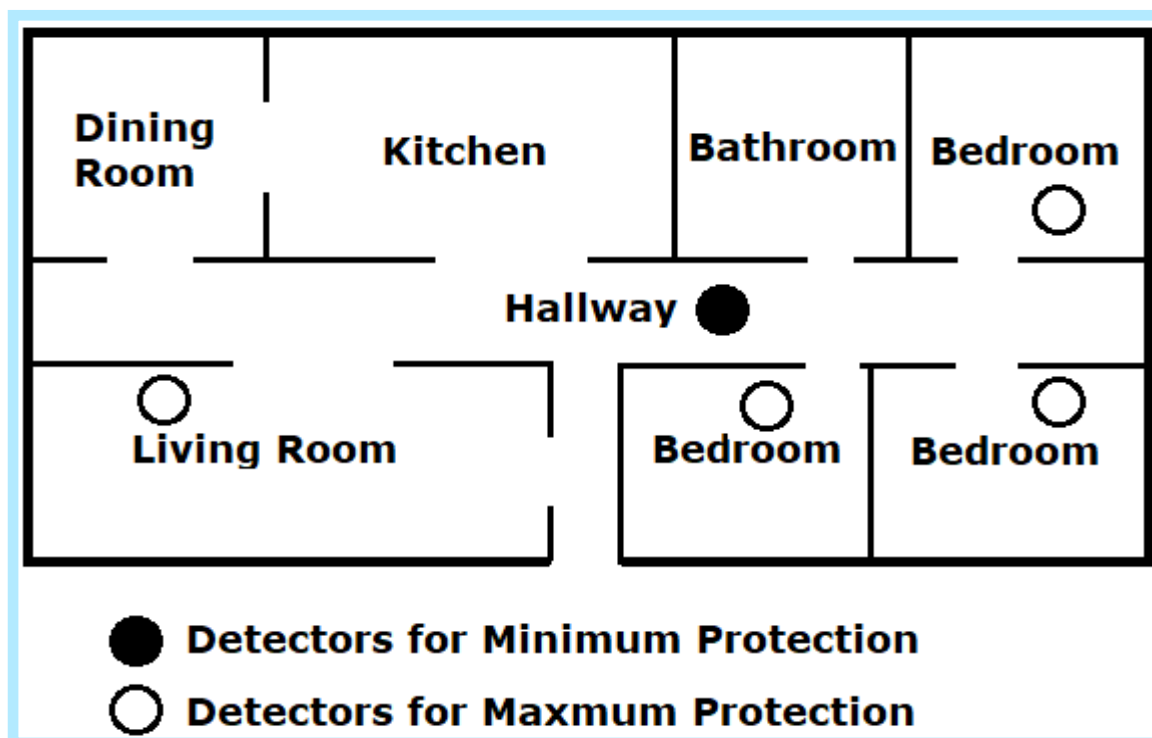
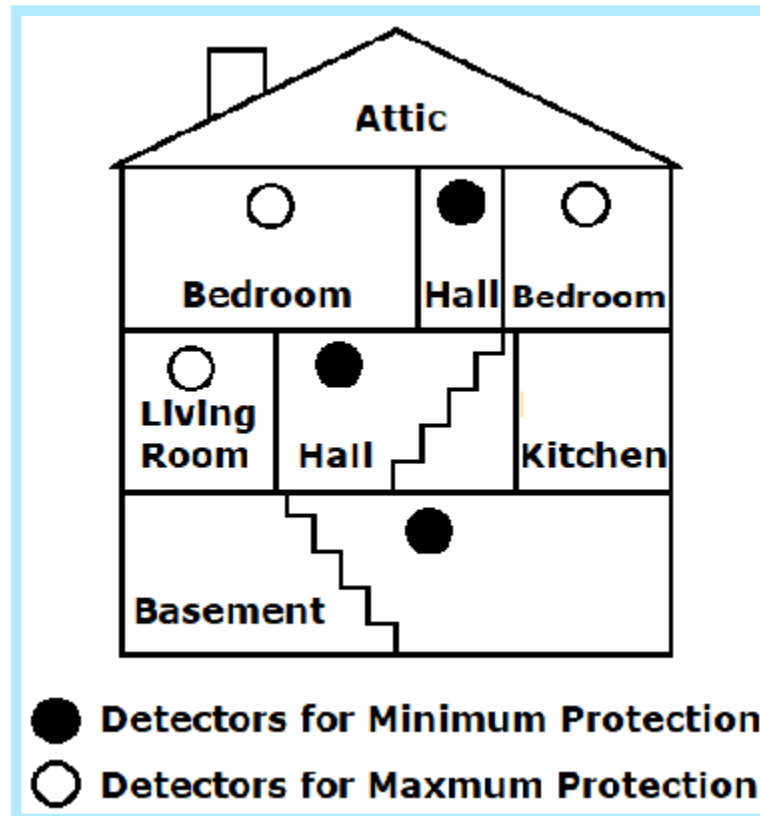
4.2 Where to Avoid

- **Kitchens:** smoke from cooking may cause nuisance alarms.
- **Bathrooms:** excessive steam from a shower may cause nuisance alarms.
- Within three feet of air ducts, fans, or where air movement may prevent smoke from reaching the detector.
- Near furnaces of any type.
- The "**Dead Air**" space where the ceiling meets the wall- dead air space may prevent smoke from reaching the detector.

5. Ceiling Plan Examples



6. Floor Plan Examples



7. Important Information

The previous examples should help out with understanding how many detectors you need, and where they must be installed. Keep in mind that any hard-wired electrical detectors will need a permit from the Code & Construction office and must be inspected by an Electrical inspector once installed.

7.1. Having a Plan

What to do when a detector goes off?

If the alarm is NOT a nuisance occurrence and smoke is present, follow these steps:

1. Alert all members of the family in the home - especially children and elderly people.
2. Follow your escape plan. **DO NOT** waste time picking up valuables.
3. Do not open any inside door without feeling its surface. If hot at the touch, or you see smoke through any cracks, **DO NOT** open the door! Instead, use an alternate exit.
4. Stay as close to the floor as possible if the air is smoky.

7.2. Additional Information

- Chirping once or twice every minute is a sign that batteries must be replaced, or that the device is experiencing another issue. Fix this immediately.
- Other possible issues that can cause chirping is humidity, extreme temperatures, or air flow from a nearby fan.
- Smoke detectors should be replaced every 10 years, and carbon monoxide detectors should be replaced every 7 years.
- Keep in mind that smoke from cigarettes may cause a fire detector to be set off, though the smoke they emit is usually not strong enough to do so.